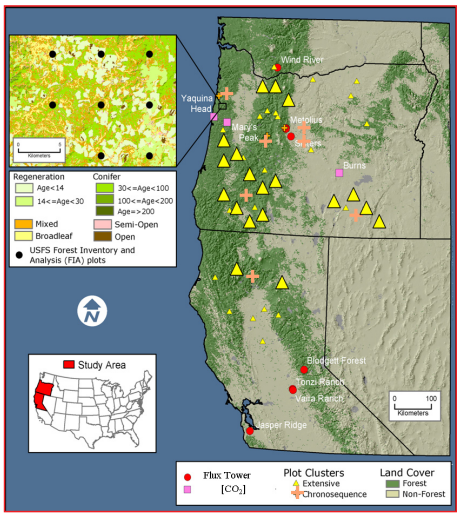
National Aeronautics and Space Administration

DATA & APPLICATIONS ONLINE

Model Archive

Overview

Archiving environmental numeric data model products has become recognized as a vital research pratice because it improves our ability to reproduce results, to perform additional anayses, and to synthesize results while investigating new hypotheses.



The Oak Ridge National Laboratory Distributed Active Archive Center (ORNL DAAC) is one of the NASA Earth Observing System Data and Information System (EOSDIS) data centers. NASA data centers provide a wide variety of interdisciplinary Earth system science data, information, services, and tools. The ORNL DAAC compiles, archives, and distributes numerical models including the source code, input data, and output resultants in two tiers. The first tier supports the storage and retrieval of benchmark model versions, and the second tier supports the association of published research results with specific model implementations.

Model Products include:

• An ecosystem process model that estimates fluxes and storage of energy, water, carbon, and nitrogen for the vegetation and soil components of terrestrial ecosystem (Biome-BGC), including:
Biome-BGC: Modeling Carbon Dynamics in Ponderosa Pine Stands (Law et al. 2003)
Biome-BGC: Modeling Effects of Disturbance and Climate (Thornton et al. 2002)
Biome-BGC: Terrestrial Ecosystem Process Model, Version 4.1.1.

• A model of plant-soil nutrient cycling used to simulate carbon and nutrient dynamics for ecosystems:
CENTURY: Modelling Ecosystem Responses to Climate Change, Version 4 (VEMAP 1995)

• A comprehensive model of the terrestrial biosphere (IBIS):
Integrated Biosphere Simulator Model (IBIS), Version 2.5

• A land surface model that examines biogeophysical and biogeochemical land-atmosphere interactions:
Land Surface Model (LMS 1.0) for Ecological, Hydrological, Atmospheric Studies

• A landscape to global vegetation model:
MAPSS: Mapped Atmosphere-Plant-Soil System Model, Version 1.0

• A nested series of models of carbon, water, and nitrogen dynamics in forest ecosystems: **PnET-Models: Carbon, Nitrogen, Water Dynamics in Forest Ecosystems (Vers. 4 and 5)**

• An integrated biogeochemical model that simulates forest and aquatic ecosystems:
PnET-BGC: Modeling Biogeochemical Processes (Gbondo-Tugbawa et al. 2001)

To learn more, go to http://daac.ornl.gov/model_intro.shtml

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